

**FLOATING-BODY DRAM USING  
WRITE WORD LINE FOR INCREASED RETENTION TIME**

**ABSTRACT OF THE DISCLOSURE**

A DRAM memory cell uses a single transistor to perform the data storage and switching functions of a conventional cell. The transistor has a floating channel body which stores a potential that corresponds to one of two digital data values. The transistor further includes a gate connected to a first word line, a drain connected to a second word line, and a source connected to a bit line. By setting the word and bit lines to specific voltage states, the channel body stores a digital one potential as a result of impact ionization and a digital zero value as a result of forward bias of body-to-source junction.